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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,649	10/18/2004	Harro Von Viebahn	GOR 222-KFM	2291
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MILDE & HOFFBERG, LLP 10 BANK STREET SUITE 460 WHITE PLAINS, NY 10606			EXAMINER NGUYEN, THU V	
			ART UNIT 3661	PAPER NUMBER
			MAIL DATE 05/01/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/511,649

Applicant(s)

VIEBAHN ET AL.

Examiner

Thu Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/31/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

The preliminary amendment filed on October 18, 2004 has been entered. By this amendment, claims 1-20 have been canceled, claims 21-40 have been added and claims 21-40 are now pending in the application.

Specification

The amendment filed October 18, 2004 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

In the preliminary amendment page 2, lines 2-3 of the second paragraph, the added material "from entering the airspace above and rear regions" is not supported by the original disclosure. The original specification does not disclose preventing the aircraft from entering "rear regions".

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 21 and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Hansen (US 2003/0055540).

As per claim 21, Hensen discloses a safety method for aircraft. The method comprises the steps of: marking prohibited airspaces, which controlled aircraft may not enter, on a digitally stored image of the airspace (para 0013, 0017); and when a controlled aircraft approaches a prohibited airspace, automatically steering the aircraft on to an alternative route which is situated outside the prohibited airspace by means of an automatic control device on board the aircraft (para 0013, 0008).

As per claim 37, Hansen teaches emitting a warning signal for the pilot when the aircraft approaches a prohibited airspace (para 0013).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 22-24, 29, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen (US 2003/0055540).

As per claim 22, Hensen does not explicitly teach that the height of the prohibited airspace is greater than the height which can be reached by the controlled aircraft. However,

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Hansen teaches the capability of avoiding the prohibited space (para 0018, 0015), further, selecting appropriate boundary around prohibit airspace in other to safeguard the airspace would have been well known and obvious matter of design choice. One of ordinary skill in the art would have found it obvious to define a boundary around the airspace with the a height that is greater than the height the aircraft could reach because defining the height not reachable by the aircraft are known to safeguard the airspace from penetration of aircraft in altitude direction.

As per claim 23, Hansen teaches allowing remote control of a third party to the autopilot (para 0016). Activating automatic control only after input of a command from a third party when the autopilot is designed to be controlled by a remote control of a third party would have been well known. One of ordinary skill in the art would have found it obvious to allow activation of the autopilot of Hansen when a command is inputted because activating the autopilot only after a command is inputted are known to provide full control to a remote personnel.

As per claim 24, Hansen teaches remote approval of entering a prohibited area (para 0014), deactivating the autopilot remotely to allow the aircraft to enter the prohibited area would have been well known. One of ordinary skill in the art would have found it obvious to deactivate the autopilot taught by Hansen by means of a device situated at a remote location outside the aircraft because providing deactivating means at the remote location are known to be able to disable automatic control of the autopilot in order to allow the pilot to control the aircraft.

As per claim 29, Hansen teaches automatically controlling the aircraft (para 0015), Hansen obviously encompasses teaching sending message to an air traffic control since

transmitting messages to a control device to activate control of the device would have been well known in computer architecture including a plurality controllers interconnected to provide overall control of the aircraft.

As per claim 38, Henson teaches emitting a warning signal for the pilot when the aircraft approaches a prohibited airspace (para 0013), furthermore, emitting warning a specific time or a specific event when the emitting device is already on board the aircraft would have been both well known and obvious matter of design choice. One of ordinary skill in the art would have found it obvious to emit a warning signal when the automatic pilot controls the aircraft because providing a warning at the time the autopilot is active are known to be useful in order to advice the pilot not to attempt to perform manual control.

5. Claims 25-28, 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen (US 2003/0055540) in view of Young (US 2003/0182060).

As per claim 25, Young teaches the capability of activating forces landing (para 0023). Furthermore, disabling the autopilot when the aircraft is out of danger would have been well known and obvious to a person of ordinary skill in the art. One of ordinary skill in the art would have found it obvious to allow deactivation when the aircraft is on the ground because deactivation of the autopilot when the aircraft in on the ground is known to reset aircraft control to manual control state when the aircraft is in safe airspace. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to allow automatic pilot to force landing the aircraft as taught by Young to the system of Hansen and to deactivating the

autopilot when the aircraft is on the ground in order to automatically control the aircraft out of the prohibited space and to return control to the pilot when the aircraft is in a safe area.

As per claim 26, Young teaches an automatic control device includes means for automatically landing the aircraft (para 0023).

As per claim 27, Young teaches that the location of the automatic landing is predetermined by means of a device situated outside the aircraft (para 0023).

As per claim 28, Young teaches the ability of taking over control of the aircraft on the alternative route (para 0023-0024). Furthermore, providing command code to control the aircraft on the alternative route from the remote location would have been both well known and obvious matter of design choice. One of ordinary skill in the art would have found it obvious to include the command codes for navigating the aircraft on the alternative ground because including the command codes are known to be useful in allowing the remote station to control the aircraft.

As per claim 30, since Young teaches avoiding movable objects (para 0014), Young obviously encompasses teaching selecting an alternative route when the aircraft approaches a moveable object, thereby to avoid the movable object.

As per claim 31, claim 31 discloses related and similar subject matter discussed in claim 30, refer to claim 30 above.

6. Claims 32-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen (US 2003/0055540) in view of Schiefele et al (US 6,201,482) and applicant's admitted prior art (AAPA hereinafter)).

As per claim 32, Schiefele in view of AAPA disclosed the claim limitation which is identified as taught in document US 6,201,482 and EP 0886847 (specification page 3, third paragraph). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the safety method taught by AAPR to the control system of Hansen in order to facilitate prediction of the collision probabilities of the aircraft with a moving or stationary objects.

As per claim 33, Schiefele teaches a plurality of alternative routes, with a deviation which increases from alternative route to alternative route, are initially calculated according to recognized or established alternative rules, and the calculated alternative route with the smallest deviation, which results in a probability of entry into the prohibited airspace that is less than a predetermined threshold value is selected (col.14, lines 19-29). Further, since Hansen teaches the capability of autopiloting the aircraft on a route (para 0015), Hansen obviously encompasses teaching converting into a control command of trajectory for the automatic control device.

As per claim 34, selecting appropriate alternative route based on specific situation concerning the mission and the objects around the aircraft, the landing and the position of the aircraft would have been both well known and obvious matter of design choice. One of ordinary skill in the art would have found it obvious to select another alternative route because selecting

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suitable alternative route are known to be efficient in saving resources and safe in object avoidance.

As per claim 35, claim 35 discloses related and similar subject matter discussed in claim 34, refer to claim 34 above.

As per claim 36, Schiefele teaches that the residence probabilities are set to a lesser value than that of the prohibited airspace (col.5, lines 10-21).

7. Claims 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen (US 2003/0055540) in view of Kreeger et al (US 3,899,662) and further in view of Bird et al (US 6,675,095) .

As per claim 39, Kreeger teaches a display capable of displaying prohibited airspaces (col.5, lines 34-39), and displaying flight path on a display device (col.5, lines 34-39). Kreeger does not explicitly teach calculating alternative routes. However, Bird teaches calculating alternative route (col.14, lines 64-67). It would have been an obvious matter of design choice to display the alternative routes calculated as taught by Bird when the display of Kreeger is capable of displaying flight route. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to display prohibited airspace and alternative routes to the pilot in order to inform the pilot maneuvers he needs to take.

As per claim 40, refer to claim 39 above. Further Kreeger teaches displaying the position of the aircraft in the airspace (col.5, lines 17-24).


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Nguyen whose telephone number is (571) 272-6967. The examiner can normally be reached on T-F (7:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

April 25, 2007


THU V. NGUYEN
PRIMARY EXAMINER